UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/652,750	08/31/00	BAUM R	BELL-29

EXAMINER	
VU,H	
ART UNIT	**PAPER NUMBER**
2663	7

DATE MAILED: 10/01/01

TM02/1001
LEONARD C. SUCHYTA C/O CHRISTIAN R. ANDE
VERIZON SERVICES GROUP
600 HIDDEN RIDGE DRIVE
MAIL CODE: HQE03H01
IRVING TX 75038

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/652,750	Baum et al
Examiner	**Art Unit**
Huy Vu	2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Aug 7, 2001

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-15 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideratio

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-15 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
18) ☐ Interview Summary (PTO-413) Paper No(s). _____
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claims 1-15 are objected to because of the following informalities: A reference character, such as a or b, should only be used to refer to the same step or limitation. Claim 1, for example, uses reference character "a" twice to refer to two separate things. The second occurrences of "a" and "b" could be changed to "1" and "2," respectively. Appropriate correction is required.

2. Claims 3-4, 7-8 and 11-12 are objected to because of the following informalities: Acronyms such as VPN-OUI and VPN-INDEX should be clearly defined. Appropriate correction is required.

Claim Rejections - 35 U.S.C. § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

4. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Ames et al (USP 6,058,429).

Regarding claim 1, Ames teaches a method for provisioning services (VLAN services) to packets sourced from a number of clients device (106, 108, 114, 116, 122 & 124), each of the packets having at least a part of the layer 2 header (data link layer destination address of the router) replaced with a unique bit string (data link layer destination address of the second device). In Ames' system, when the proxy forwarding mechanism of the learning switch 200 receives a packet from a source device client 114, it replaces the data link destination address of the router in layer 2 header of the incoming packet with the data link layer destination address of the second device, e.g. server 104). See col. 3, lines 41-49 and col. 10 line 14 to col. 12, line 38. The method comprises the step of determining whether or not the packet is entitled to access a particular service (switch 134 determines whether the received packet is entitled to access server 104) based on at least the unique bit string (data link layer destination address of the server 104). After the switch 134 determines that the packet is entitled to access a server 104, the packet is then forwarded to server 104.

Regarding claim 2, Ames also teaches that when the router 124 receives the packet from client 114, router 124 replaces the layer 2 source address of the incoming packet with the layer 2 source address of port 130 (one of the interfaces of router 124) before forwarding the packet to server 104. See col. 2, lines 46-55.

5. Claims 1-4 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Gleeson et al (USP 5,959,989).

Regarding claim 1, Gleeson teaches that a part of the layer 2 header is replaced with a unique bit string (see the combination of M-VLAN ID 612 and VLAN designation 620 in figure 6) by the intermediate devices (220-223). Each intermediate device determines whether or not the packet is destined to a member of the VLAN the device manages (entitled to access a particular service).

Regarding claim 2, the unique bit string (VLAN designation) represents one of the virtual LAN interface (logical interface)

Regarding claim 3, a portion of the unique bit string correspond to a M-VLAN ID (VPN-OUI).

Regarding claim 4, a portion of the unique bit string correspond to a VLAN designation (VPN-INDEX).

Regarding claim 13, Gleeson also teaches the VLAN designation table 240 (access control list) which is used by the intermediate device to determine as to whether or not the packet having a particular VLAN designation is entitled to access the VLAN the device manages.

Claim Rejections - 35 U.S.C. § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 5-6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ames et al (USP 6,058,429) in view of Haddock (USP 6,104,700).

Regarding claims 5 and 14, Ames fails to teach the determination of a service level of a packet based on a portion of at least one of layer 3 address or the unique bit string (layer 2 address) of the packet and forwarding the packet to the queue associated with the determined service level. However, Haddock teaches such determination. Specifically, Haddock teaches a forwarding device (could be a switch or a router) which determines the quality of service QoS level (a service level) of an incoming packet based on either its IP address (layer 3 address) or MAC address (layer 2 address). See col. 5, lines 31-49. Once the determination is made, the packet is forwarded to a QoS queue associated with the determined QoS level. See figure 2. This mechanism ensures quality of service for various QoS levels, thereby enhancing system performance. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Haddock's teaching of determining a service level of a packet based on either IP address (layer 3 address) or MAC address (unique bit string) of the packet and forwarding the packet to the queue associated with the determined service level in Ames' system with the motivation being to provide quality of service for various QoS levels and enhance system performance.

Regarding claim 6, Ames also teaches that when the router 124 receives the packet from client 114, router 124 replaces the layer 2 source address of the incoming packet with the layer 2 source address of port 130 (one of the interfaces of router 124) before forwarding the packet to server 104. See col. 2, lines 46-55.

8. Claims 5-8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gleeson et al (USP 5,959,989) in view of Haddock (USP 6,104,700).

Regarding claims 5 and 14, Gleeson fails to teach the determination of a service level of a packet based on a portion of at least one of layer 3 address or the unique bit string (layer 2 address) of the packet and forwarding the packet to the queue associated with the determined service level. However, Haddock teaches such determination. Specifically, Haddock teaches a forwarding device (could be a switch or a router) which determines the quality of service QoS level (a service level) of an incoming packet based on either its IP address (layer 3 address) or MAC address (layer 2 address). See col. 5, lines 31-49. Once the determination is made, the packet is forwarded to a QoS queue associated with the determined QoS level. See figure 2. This mechanism ensures quality of service for various QoS levels, thereby enhancing system performance. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Haddock's teaching of determining a service level of a packet based on either IP address (layer 3 address) or MAC address (unique bit string) of the packet and forwarding the packet to the queue associated with the determined service level in Gleeson's system with the motivation being to provide quality of service for various QoS levels and enhance system performance.

Regarding claim 6, the unique bit string (VLAN designation) represents one of the virtual LAN interface (logical interface)

Regarding claim 7, a portion of the unique bit string correspond to a M-VLAN ID (VPN-OUI).

Regarding claim 8, a portion of the unique bit string correspond to a VLAN designation (VPN-INDEX).

9. Claims 9-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gleeson et al (USP 5,959,989) in view of Murthy et al (USP 5,610,905).

Regarding claims 9 and 15, Gleeson also teaches copying the packet to generate a duplicate packet in the case when the packet is a multicast packet. Gleeson fails to teach the monitoring port and the forwarding of the duplicate packet to the monitoring port. However, such monitoring port is taught by Murthy. Specifically, Murthy teaches the monitoring port at the switch for the purpose of monitoring the switch and perform other management tasks. The monitoring port also receives a duplicate packet. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Murthy's teaching monitoring port in Gleeson's switch with the motivation being to enable the monitoring the switch and performing other management tasks, thereby enhancing system performance.

Regarding claim 10, the unique bit string (VLAN designation) represents one of the virtual LAN interface (logical interface)

Regarding claim 11, a portion of the unique bit string correspond to a M-VLAN ID (VPN-OUI).

Regarding claim 12, a portion of the unique bit string correspond to a VLAN designation (VPN-INDEX).

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tappan (USP 5991300) teaches COS value for identifying class of service

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for formal communications intended for entry)

Or:

(703) 308-5403 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huy D. Vu whose telephone number is (703) 308-6602. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 8:00 a.m. to 4:00 p.m. The examiner can also be reached on alternate Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen, can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-9051.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

HUY D. VU
PRIMARY EXAMINER